

$$1) \quad 3 - 2(x+5) = 4(x-3)$$

$$3 - 2x - 10 = 4x - 12$$

$$-6x = -5$$

$$x = 5/6$$

$$2) \quad \frac{2}{7}(x-4) = x-3$$

$$2(x-4) = 7x-21$$

$$2x-8 = 7x-21$$

$$13 = 5x$$

$$x = 13/5$$

$$3) \quad \frac{2x-3}{2} = \frac{3x-5}{4}$$

$$4x-6 = 3x-5$$

$$x = 1$$

$$4) \quad (x+1)(x-2) - (x+3)(x-7) = 5$$

$$x^2 - x - 2 - (x^2 - 4x - 21) = 5$$

$$3x + 19 = 5$$

$$3x = -14$$

$$x = -14/3$$

$$5) \quad \frac{1}{2}x - 3 = \frac{2}{3}x + 5$$

$$3x - 18 = 4x + 30$$

$$-48 = x$$